

July 18, 2018

Mort Schmidt  
Cox-Colvin & Associates  
7750 Corporate Blvd.  
Plain City, OH 43064

RE: Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

Dear Mort Schmidt:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Report was revised on July 18, 2018 to include the units conversion to ppbv.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carolynne Trout  
carolynne.trout@pacelabs.com  
1(612)607-6351  
Project Manager

Enclosures

cc: Lab Info, Cox-Colvin & Associates  
Kathy Sarver, Cox-Colvin & Associates  
Henry Stahl, Cox-Colvin & Associates



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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## CERTIFICATIONS

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

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### Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485  
A2LA Certification #: 2926.01  
Alabama Certification #: 40770  
Alaska Contaminated Sites Certification #: 17-009  
Alaska DW Certification #: MN00064  
Arizona Certification #: AZ0014  
Arkansas DW Certification #: MN00064  
Arkansas WW Certification #: 88-0680  
California Certification #: 2929  
CNMI Saipan Certification #: MP0003  
Colorado Certification #: MN00064  
Connecticut Certification #: PH-0256  
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137  
Florida Certification #: E87605  
Georgia Certification #: 959  
Guam EPA Certification #: MN00064  
Hawaii Certification #: MN00064  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Indiana Certification #: C-MN-01  
Iowa Certification #: 368  
Kansas Certification #: E-10167  
Kentucky DW Certification #: 90062  
Kentucky WW Certification #: 90062  
Louisiana DEQ Certification #: 03086  
Louisiana DW Certification #: MN00064  
Maine Certification #: MN00064  
Maryland Certification #: 322  
Massachusetts Certification #: M-MN064  
Michigan Certification #: 9909

Minnesota Certification #: 027-053-137  
Minnesota Dept of Ag Certification #: via MN 027-053-137  
Minnesota Petrofund Certification #: 1240  
Mississippi Certification #: MN00064  
Montana Certification #: CERT0092  
Nebraska Certification #: NE-OS-18-06  
Nevada Certification #: MN00064  
New Hampshire Certification #: 2081  
New Jersey Certification #: MN002  
New York Certification #: 11647  
North Carolina DW Certification #: 27700  
North Carolina WW Certification #: 530  
North Dakota Certification #: R-036  
Ohio DW Certification #: 41244  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon NwTPH Certification #: MN300001  
Oregon Secondary Certification #: MN200001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification #: MN00064  
South Carolina Certification #: 74003001  
Tennessee Certification #: TN02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia Certification #: 460163  
Washington Certification #: C486  
West Virginia DW Certification #: 9952 C  
West Virginia DEP Certification #: 382  
Wisconsin Certification #: 999407970  
Wyoming UST Certification #: 2926.01 via A2LA

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10438949001	AKAA-01	Air	07/08/18 09:28	07/11/18 09:45
10438949002	AKAA-01 cert #3412	Air	07/08/18 09:28	07/11/18 09:45
10438949003	AKAA-02	Air	07/08/18 09:33	07/11/18 09:45
10438949004	AKAA-02 cert #1033	Air	07/08/18 09:33	07/11/18 09:45
10438949005	AKAA-03	Air	07/08/18 09:12	07/11/18 09:45
10438949006	AKAA-03 cert #2665	Air	07/08/18 09:12	07/11/18 09:45

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10438949001	AKAA-01	TO-15	MLS	1	PASI-M
10438949002	AKAA-01 cert #3412	TO-15	MJL	1	PASI-M
10438949003	AKAA-02	TO-15	MLS	1	PASI-M
10438949004	AKAA-02 cert #1033	TO-15	MLS	1	PASI-M
10438949005	AKAA-03	TO-15	MLS	1	PASI-M
10438949006	AKAA-03 cert #2665	TO-15	CH1	1	PASI-M

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

<b>Sample: AKAA-01</b>		<b>Lab ID: 10438949001</b>	Collected: 07/08/18 09:28		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Benzene	18.7	ug/m3	0.48	1.49		07/12/18 18:00	71-43-2	

<b>Sample: AKAA-01 cert #3412</b>		<b>Lab ID: 10438949002</b>	Collected: 07/08/18 09:28		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Individual Can Certification</b>		Analytical Method: TO-15						
Benzene	ND	ug/m3	0.32	1		06/26/18 10:05	71-43-2	

<b>Sample: AKAA-02</b>		<b>Lab ID: 10438949003</b>	Collected: 07/08/18 09:33		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Benzene	5.7	ug/m3	0.48	1.49		07/12/18 18:36	71-43-2	

<b>Sample: AKAA-02 cert #1033</b>		<b>Lab ID: 10438949004</b>	Collected: 07/08/18 09:33		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Individual Can Certification</b>		Analytical Method: TO-15						
Benzene	ND	ug/m3	0.32	1		05/27/18 14:41	71-43-2	

<b>Sample: AKAA-03</b>		<b>Lab ID: 10438949005</b>	Collected: 07/08/18 09:12		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
Benzene	0.88	ug/m3	0.48	1.49		07/12/18 19:13	71-43-2	

<b>Sample: AKAA-03 cert #2665</b>		<b>Lab ID: 10438949006</b>	Collected: 07/08/18 09:12		Received: 07/11/18 09:45		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Individual Can Certification</b>		Analytical Method: TO-15						
Benzene	ND	ug/m3	0.32	1		06/19/18 21:36	71-43-2	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

QC Batch: 550031 Analysis Method: TO-15  
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level  
Associated Lab Samples: 10438949001, 10438949003, 10438949005

METHOD BLANK: 2988949 Matrix: Air  
Associated Lab Samples: 10438949001, 10438949003, 10438949005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	07/12/18 09:53	

LABORATORY CONTROL SAMPLE: 2988950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	31.4	97	70-134	

SAMPLE DUPLICATE: 2989415

Parameter	Units	10438749001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	ND	43.0		25	

SAMPLE DUPLICATE: 2989427

Parameter	Units	10438749002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	4260	4170	2	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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Date: 07/18/2018 04:42 PM

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## QUALIFIERS

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

### SAMPLE QUALIFIERS

Sample: 2989415  
[1] This result is reported from a serial dilution.  
Sample: 2989427  
[1] This result is reported from a serial dilution.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AK Steel Middletown, Fenceline-Revised Report  
Pace Project No.: 10438949

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10438949001	AKAA-01	TO-15	550031		
10438949003	AKAA-02	TO-15	550031		
10438949005	AKAA-03	TO-15	550031		
10438949002	AKAA-01 cert #3412	TO-15	550631		
10438949004	AKAA-02 cert #1033	TO-15	550631		
10438949006	AKAA-03 cert #2665	TO-15	550631		

## REPORT OF LABORATORY ANALYSIS


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[REDACTED]

## Air Sample Chain of Custody

[illegible]

	Document Name: <b>Air Sample Condition Upon Receipt</b>	Document Revised: 02May2018 Page 1 of 1
	Document No.: <b>F-MN-A-106-rev.15</b>	Issuing Authority: Pace Minnesota Quality Office

**Air Sample Condition  
Upon Receipt**

Client Name:

COX - Colvin

Project #:

**WO# : 10438949**

PM: CT1

Due Date: 07/18/18

CLIENT: Cox Colvin

Courier: ☒ Fed Ex ☐ UPS ☐ Speedee ☐ Client  
☐ Commercial ☐ Pace ☐ Other: RG 7/11/18

Tracking Number: 41646671 2615 2279 2604  
12626

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other: \_\_\_\_\_

Temp Blank rec: ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used: \_\_\_\_\_

Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_

Date & Initials of Person Examining Contents: RG 7/11/18

Type of ice Received ☐ Blue ☐ Wet ☒ None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans <u>Y</u> <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 9 cans

Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>AKAA-01</u>			<u>-3</u>	<u>+10.5</u>					
<u>11 02</u>			<u>-3</u>	<u>+5</u>					
<u>11 03</u>			<u>-3</u>	<u>+5</u>					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review:

Carynne Hunt

Date: 7/11/18

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
1700 Elm Street – Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949

Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949001

ProjSampleNum: 10438949001

Date Collected: 07/08/18 9:28

Client Sample ID: AKAA-01

Matrix: Air

Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	5.8	ppbv	0.15	1.49	07/12/18 18:00	MLS	71-43-2

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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Pace Analytical Services, Inc.  
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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949

Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949002

ProjSampleNum: 10438949002

Date Collected: 07/08/18 9:28

Client Sample ID: AKAA-01 cert #3412

Matrix: Air

Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	ND	ppbv	0.099	1	06/26/18 10:05 MJL	71-43-2	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949

Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949003

ProjSampleNum: 10438949003

Date Collected: 07/08/18 9:33

Client Sample ID: AKAA-02

Matrix: Air

Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	1.8	ppbv	0.15	1.49	07/12/18 18:36 MLS	71-43-2	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949

Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949004

ProjSampleNum: 10438949004

Date Collected: 07/08/18 9:33

Client Sample ID: AKAA-02 cert #1033

Matrix: Air

Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	ND	ppbv	0.099	1	05/27/18 14:41 MLS	71-43-2	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949  
Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949005  
Client Sample ID: AKAA-03

ProjSampleNum: 10438949005  
Matrix: Air

Date Collected: 07/08/18 9:12  
Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	0.27	ppbv	0.15	1.49	07/12/18 19:13 MLS	71-43-2	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949

Project Name: AK Steel Middletown, Fenceline

Lab Sample No: 10438949006

ProjSampleNum: 10438949006

Date Collected: 07/08/18 9:12

Client Sample ID: AKAA-03 cert #2665

Matrix: Air

Date Received: 07/11/18 9:45

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Benzene	ND	ppbv	0.099	1	06/19/18 21:36 CH1	71-43-2	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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## ANALYTICAL RESULTS

Client: Cox Colvin  
Phone: 614-526-2040

Lab Project Number: 10438949  
Project Name: AK Steel Middletown, Fenceline

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## PARAMETER FOOTNOTES

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 7/17/2018

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